



THE EFFECT OF HIGH INTENSITY INTERVAL TRAINING AND BODYMASS INDEX EXERCISE ON REDUCING BODY FAT FOLD LEVELS

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Abstract

The aim of this research is to analyze 1). The effect of HIIT training with a 2:1 ratio on reducing body fat folds, 2). The effect of HIIT training with a ratio of 1:3 on reducing body fat folds, 3). The difference between HIIT training ratios of 2:1 and 1:3 in reducing body fat folds, 4). Differences in decrease in body fat folds between overweight and obese BMI. This research uses a quasi-experimental method, a 2 x 2 factorial research design. The test instrument in this research is 1). Body fat thickness test, 2). Body Mass Index (BMI). Data analysis using Two Way Anova. The research results show: 1). HIIT training with a ratio of 2:1 to a decrease in body fat folds obtained a significance value of $0.01 < 0.005$, 2). HIIT training with a ratio of 1:3 to a decrease in body fat folds obtained a significance value of $0.04 < 0.005$, 3). HIIT training with a ratio of 2:1 and 1:3 to reduce body fat folds obtained a significance value of $0.02 < 0.005$, 4). BMI overweight and obesity on decreasing body fat folds obtained a significance value of $0.00 < 0.005$.

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INTRODUCTION

Excess body weight or often called obesity is a serious case that is often faced by many developing countries, one of which is Indonesia (Roemling et al. 2012). In 2014, there were around 1.9 billion people suffering from overweight and obesity which had a higher risk of death compared to those with normal weight (Niswah, S. R., Soemanto, R., & Murti 2017). Based on data from Sirkernas in 2016, obesity rates rose from 20.7% to 33.5% in the adult population over 18 years. Meanwhile, according to Dr. Dante Saksono Harbuwono, who is the deputy minister of health of the Republic of Indonesia, obesity cases in Indonesia continue to increase from year to year. he said, in 2023, Riskesdas data recorded obesity cases at 15.3%. If we refer to 2018 data, the cases increased to 21.8%. This shows that cases of overweight continue to increase (Niswah, S. R., Soemanto, R., & Murti 2017).

Obesity or being overweight can occur due to the accumulation of excess body fat so that the body becomes fat. Consuming more food or consuming calories that enter the body than the calories that are burned into energy will cause obesity or being overweight (Riswanti 2017). Obesity is characterized by a body mass index value that is more than normal (≥ 23 kg/m²) according to age and gender (Chiu et al. 2017) (Ranjani et al. 2014). People who are overweight or obese have a high risk of various diseases such as diabetes mellitus, cardiovascular disorders, hypertension, prostate cancer, sleep disorders, etc (Diana et al. 2013). One of the factors or triggers that can cause excess weight or overweight is lack of physical activity (Kim et al. 2017). If you don't do enough physical activity, such as exercising, it will result in excessive fat accumulation due to excess calories that are not converted into energy (Setiawati et al. 2019).

Excessive accumulation of body fat occurs due to an energy imbalance in the body, namely the consumption of more calories or energy than the calories burned into energy over a long period of time and continuously (Nataloka et al. 2020). According to Handayani et al. (2015) the level of obesity in a person is most likely caused by

unhealthy behavior which is influenced by a lack of nutritional intake and a lack of knowledge about the importance of maintaining health. According to Miller et al. (2016) doing physical activity or exercising has very good benefits or effects on body health, such as reducing fat levels and body cholesterol, including several chronic diseases such as cancer and cardiovascular disease. If someone does not do physical activity or exercise, the possibility of developing heart disease will be greater (Utomo et al. 2012). When doing physical activity or exercising, fat burning occurs, this is caused by an increase in basal metabolism, an increase in lipolysis, an increase in body temperature, which causes the body to sweat and increase muscle mass (Deliens et al. 2015).

In 2020, the latest WHO (World Health Organization) guidelines on physical activity strongly recommend doing physical activity in adults as follows: at least 150-300 minutes per week of moderate intensity, 75-150 minutes per week of high intensity aerobic physical activity, or a combination of moderate and high intensity aerobic activity (Yang 2019). Adults should also perform moderate- or high-intensity muscle-strengthening exercises involving all major muscle groups for 2 or more days per week (Bull et al. 2020). Research has shown that lack of time, inadequate motivation, and poor compliance are common barriers to physical inactivity. High-intensity interval training (HIIT) is a time-saving method that is very beneficial for improving health indicators, when compared with conventional resistance training or moderate-intensity continuous training (MICT) (Cao et al. 2021), although HIIT has a shorter training duration and volume. lower, HIIT can produce similar or even better impacts on body health-related indicators.

A 2019 review and meta-analysis found that interval training in both HIIT and SIT resulted in a 28.5% greater reduction in body fat mass compared to moderate-intensity continuous exercise (Borges et al. 2019). HIIT training is an exercise that combines three intensity milestones, namely high, medium and low. The advantages and benefits of HIIT tabata training are that it can

burn fat which is used as energy, it can increase the body's metabolism during exercise and after training, the time is quite short so it is more effective and efficient, and it can improve the aerobic and anaerobic systems (Domaradzki et al. 2020). Training with the HIIT tabata training model is a type of training that involves adjusting the ratio of training time to rest time. In practice, the ratio of training and rest time is used, namely twice the rest time (Embets et al. 2013).

The explanation above is further confirmed by the results of other research that Tabata training or HIIT is a type of exercise that is considered capable of contributing to increasing Vo_{2max} and speed. The Tabata or HIIT training model is an exercise that utilizes the time ratio between exercise and rest (Viana et al. 2019). Tabata training is a type of high intensity training or HIIT (High Intensity Interval Training). According to (Shah et al. 2020; Shilenko et al. 2020) tabata or HIIT training based on previous research is said to be effective in reducing weight, reducing the percentage of body fat folds and can also strengthen muscles compared to moderate intensity continuous exercise. This is in line with research conducted by Wood et al. (2016) during HIIT, subjects burned significantly more calories and lower perceived exertion compared to MICT. Higher VO_{2max} and lower blood lactate concentration in HIIT compared to moderate intensity continuous exercise. This reflects different metabolic perturbations possibly giving rise to unique long-term adaptations. If someone wants to burn more calories, maintain higher oxygen uptake, and reduce activity during exercise, HIIT type of training is the recommended routine (Hidayatullah et al. 2022).

The HIIT training method is a type of exercise with high intensity and carried out with a fairly short training duration (Alansare et al. 2018). According to (Komala, R., Riyadi, H., & Setiawan 2016) HIIT training carried out at an intensity of 90-95% for 4-6 weeks of training will increase Vo_{2max} , reduce the percentage of fat in the body and body mass index. Doing exercises using the HIIT method is recommended for those who are obese, overweight and young adults

because this exercise is short in duration, flexible and has minimal risk of injury (Nugraha, A. R., & Berawi 2017). Tabata training carried out with high intensity interval training is very beneficial in increasing aerobic capacity and lactate threshold, improving body mass index, burning calories and body fat stores (Embets et al. 2013). A HIIT training program based on the Tabata protocol can significantly reduce body weight, BMI, WHR and body fat in overweight people (Domaradzki et al. 2020).

According to Rangga et al. (2017) There are many alternatives that can be done to improve or maintain physical fitness, for example by doing bodyweight training using the HIIT tabata method which can be done anywhere and at any time and does not require a lot of time. Bodyweight training has been developing for a long time, but due to lack of knowledge and awareness of the importance of maintaining body fitness, especially among students, they are reluctant to do physical activity, the impact of which is that their body fitness is not maintained and some others experience excessive body weight (Dwicahya et al. 2019). There are many variations of high-intensity bodyweight training exercises and they are very easy to do anywhere, for example jumping jacks, squat thrusts, squat jumps, etc. The high-intensity tabata training method was chosen because it can increase vo_{2max} ability, reduce body weight, reduce the percentage of body fat folds and can also strengthen body muscles, apart from that it is very effective and efficient because the time to do it is quite short (Hernawan et al. 2021).

Based on observations and observations made on final year POR UMS students or semester 7 to semester 9, totaling 55 students, 22 (40%) of whom were observed to be overweight and obese, this was triggered by a lack of physical activity carried out for reasons There are no practical lectures anymore and they are busy with final assignments. The opposite happens to lower level students who still have an ideal body weight because they often do physical activity both in courses and exercise outside of lecture hours. From the description above regarding the importance of maintaining a healthy body,

researchers wish to study the influence of the High Intensity Interval Training Model and Body Mass Index on reducing body fat levels. It is hoped that carrying out this research can maximize and at the same time provide solutions for students to always carry out physical activity considering the importance of maintaining health and being able to improve and maintain the condition of their bodies, so that they can carry out daily activities with maximum quality.

METHODS

This research uses a quasi-experimental research method, with a research design in the form of a 2 x 2 factorial design which tests the influence of independent variables on the dependent variable and moderator variables or attributes, namely: 2:1 and 1:3 HIIT training models as independent variables, reduction in fold levels body fat as the dependent variable and body mass index as the attribute or moderator variable. Each independent variable is classified into two. The independent variables were classified into two forms of exercise, namely pre-test pre-treatment and post-test post-treatment of HIIT 2:1 and 1:3 exercises. Meanwhile, moderator variables or attributes are classified into two categories, namely overweight and obesity.

The population was 55 UMS Sports Education students with a sampling technique using purposive sampling and a sample of 20 students. The research location is located at Campus 1, Muhammadiyah University, Surakarta. Research starts from March 7 to April 11.

Data collection in this research was carried out using administrative instrument techniques. The test instruments used in this research were tests to measure body fat fold levels (scinfold calliper) and measurements of body weight and height to determine BMI.

The data analysis technique applied in this research used two-way ANOVA. Considering that research data analysis was carried out using ANOVA, before using 2-way ANOVA it is necessary to carry out prerequisite tests which include: (1) normality test and (2) variance homogeneity test and hypothesis test.

RESULTS AND DISCUSSION

Result

1. The Effect of 2:1 Ratio HIIT Training on Reducing Body Fat Fold Levels

Table 1. Hypothesis Testing Data from Body Fat Fold Test Results Seen from HIIT Training Ratio 2:1

Variabel	Pretest	Posttest	Sig
HIIT Rasio 2:1	17,83	15,42	0,01 < 0,05

Based on the table above, the results of hypothesis testing analysis using ANOVA statistics of 2:1 ratio HIIT training on reducing body fat folds obtained a significance value of $0.01 < 0.005$ so it can be interpreted as H_a which reads "There is an effect of 2:1 ratio HIIT training on reducing body fat fold levels" accepted.

2. The Effect of 1:3 Ratio HIIT Training on Reducing Body Fat Fold Levels

Table 2. Hypothesis Testing Data from Body Fat Fold Test Results Seen from HIIT Training Ratio 1:3

Variabel	Pretest	Posttest	Sig
HIIT Rasio 1:3	17,83	15,42	0,04 < 0,05

Based on the table above, the results of hypothesis testing analysis using ANOVA statistics of 1:3 ratio HIIT training on reducing body fat folds obtained a significance value of $0.04 < 0.005$ so it can be interpreted as H_a which reads "There is an effect of 1:3 ratio HIIT training on reducing body fat fold levels" accepted.

3. Differences between 2:1 and 1:3 ratio HIIT training on reducing body fat levels

Table 3. Data Hypothesis Testing Differences between 2:1 and 1:3 HIIT ratio training on reducing body fat levels

Variabel	HIIT	HIIT	Sig
	Rasio 2:1	Rasio 1:3	
HIIT Rasio 2:1 and 1:3	16,62	17,83	0,02 < 0,05

Based on the table above, the results of hypothesis testing analysis using ANOVA statistics. The difference between HIIT training with a ratio of 2:1 and 1:3 on reducing levels of body fat folds obtained a significance value of $0.02 < 0.005$ so that it can be interpreted as H_a which reads "There is a difference between HIIT

training with a ratio of 2:1 and 1:3 towards reducing levels of body fat folds” was accepted.

4. Differences in Decreased Levels of Body Fat Between Overweight and Obese BMI

Table 4. Hypothesis Testing Differences in Decrease in Body Fat Fold Levels Between Overweight and Obese BMI

Variabel	BMI Overweight	BMI Obese	Sig
BMI Overweight and Obese	15,85	18,65	0,00 < 0,05

Based on the table above, the results of the analysis of hypothesis testing using ANOVA statistics, the difference between the decrease in body fat fold levels between overweight and obese BMIs towards the decrease in body fat fold levels, obtained a significance value of $0.00 < 0.005$ so that it can be interpreted as H_a which reads "There is a difference in the decrease in body fat fold levels between BMI overweight and obesity" is accepted.

Discussion

The results of the exercises that were given during 16 meetings showed that HIIT training with a ratio of 2:1 and 1:3 was able to reduce the percentage of body fat folds in UMS Sports Education students. This can be felt by students themselves, the folds of body fat that are tested in areas that have been determined have decreased, apart from that, body weight and body mass index have also decreased. Maintaining physical fitness and maintaining an ideal body weight must be done by everyone because it will affect their daily activities.

According to Kravitz et al. (2014) High intensity interval training (HIIT) is a training concept that uses a combination of high intensity training alternated with moderate or low intensity training. HIIT training ratio 2:1 means the training time is twice the rest time. This exercise is done completely in 20 seconds and is accompanied by active or passive rest intervals of 10 seconds and lasts for 4 minutes per set (Hidayatullah et al 2022). Meanwhile, HIIT training has a ratio of 1:3, namely the training time is high intensity exercise for 10 seconds alternated with moderate intensity for 30 seconds

and lasts for 4 minutes per set (Rahman et al. 2020).

According to Tipane (2020), the benefits of exercising with HIIT include reducing body fat, improving cardiovascular health and body metabolism, improving mood and mental health, saving time. This is in line with the opinion of Cao et al. (2021), who stated that although HIIT has a lower duration and training volume, it can produce similar or even better impacts on indicators related to body health. The results of this research are confirmed by research by Borges et al. (2019) A 2019 review and meta-analysis found that both HIIT and SIT interval training resulted in a 28.5% greater reduction in body fat mass compared to moderate intensity continuous exercise.

HIIT (high intensity interval training) training is a short form of high intensity exercise alternated with low intensity exercise (Khair et al. 2023). According to Buchheit et al. (2013) suggests that HIIT, or high-intensity interval training, is a training technique in which high-intensity interval training, where you give your full effort or activity as hard as possible, is followed by a very short and active recovery period.

According to Klika et al. (2013) HIIT is an efficient way of exercise to reduce body fat and aid weight loss, by increasing insulin sensitivity, increasing VO₂max and muscle fitness. This is in line with Maftukhan (2020) who stated that HIIT training can reduce body weight, percent body fat and Body Mass Index (BMI) in obese women.

CONCLUSION

High intensity interval training with a ratio of 2:1 and 1:3 both had a significant effect on reducing the percentage of body fat folds in UMS sports education students, then there was a significant difference in the influence between overweight and obese BMI on reducing body fat folds in UMS Sports Education students. between before and after being given exercise treatment.

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REFERENCES

- Alansare, Abdullah et al. 2018. "The Effects of High-Intensity Interval Training vs. Moderate-Intensity Continuous Training on Heart Rate Variability in Physically Inactive Adults." *International Journal of Environmental Research and Public Health*. doi: 10.3390/ijerph15071508.
- Borges, Viana Ricardo et al. 2019. "Is Interval Training the Magic Bullet for Fat Loss? A Systematic Review and Meta-Analysis Comparing Moderate-Intensity Continuous Training with High-Intensity Interval Training (HIIT)." *British Journal of Sports Medicine* 53(10).
- Buchheit, Martin et al. 2013. "High-Intensity Interval Training, Solutions to the Programming Puzzle. Part II: Anaerobic Energy, Neuromuscular Load and Practical Applications." *Sports Med* 43(10) 927.
- Bull, Fiona C. et al. 2020. "World Health Organization 2020 Guidelines on Physical Activity and Sedentary Behaviour." *British Journal of Sports Medicine* 54.
- Cao, Meng et al. 2021. "Effects of High-Intensity Interval Training and Moderate-Intensity Continuous Training on Cardiometabolic Risk Factors in Overweight and Obesity Children and Adolescents: A Meta-Analysis of Randomized Controlled Trials." *International Journal of Environmental Research and Public Health* 18(22). doi: 10.3390/ijerph182211905.
- Chiu, Chih Hui et al. 2017. "Benefits of Different Intensity of Aerobic Exercise in Modulating Body Composition among Obese Young Adults: A Pilot Randomized Controlled Trial." *Health and Quality of Life Outcomes*. doi: 10.1186/s12955-017-0743-4.
- Deliens, Tom et al. 2015. "Determinants of Physical Activity and Sedentary Behaviour in University Students: A Qualitative Study Using Focus Group Discussions." *BMC Public Health* 15(1):1–9. doi: 10.1186/s12889-015-1553-4.
- Diana, Rian et al. 2013. "FAKTOR RISIKO KEGEMUKAN PADA WANITA DEWASA INDONESIA." *Jurnal Gizi Dan Pangan*. doi: 10.25182/jgp.2013.8.1.1-8.
- Domaradzki, Jarosław et al. 2020. "Effects of Tabata Training during Physical Education Classes on Body Composition, Aerobic Capacity, and Anaerobic Performance of under-, Normal-and Overweight Adolescents." *International Journal of Environmental Research and Public Health* 30. doi: 10.3390/ijerph17030876.
- Dwicahya, Nanda et al. 2019. "Pengaruh Latihan Circuit Bodyweight Terhadap Kebugaran Jasmani, Indeks Massa Tubuh, Persentase Lemak Tubuh Dan Fleksibilitas." *Medikora* 16(1):111–22. doi: 10.21831/medikora.v16i1.23487.
- Emberts, Talisa et al. 2013. "Exercise Intensity and Energy Expenditure of a Tabata Workout." *Journal of Sports Science and Medicine* 12(3):612–13.
- Handayani, Oktia et al. 2015. "Health Promotion Models to Reduce Childhood Obesity in Elementary School: A Comparison Study between Indonesia and Australia." *Journal of Scientific Research and Reports* 7(1):1–10. doi: 10.9734/jsrr/2015/17050.
- Hernawan, Nipaldi et al. 2021. "Perbandingan Pengaruh Metode Latihan Tabata Dengan Metode High Intensity Interval Training Terhadap Hasil Daya Tahan Kardiovaskular Pemain Sepakbola." *Jurnal Keolahragaan* 7(2):30. doi: 10.25157/jkor.v7i2.5663.
- Hidayatullah, M. Furqon et al. 2022. *Menjaga Kebugaran Dengan HIIT*. Surakarta: Cakra Wijaya.
- Khair, Ziyadatul et al. 2023. "Literature Review: Perbandingan High Intensity Interval Training (HIIT) Dengan Circuit Training Terhadap Peningkatan Vo2max Pada Atlet Bulutangkis." *Jurnal Penelitian Inovatif* 3(1):27–32. doi: 10.54082/jupin.127.
- Kim, Bo Yeon et al. 2017. "Obesity and Physical Activity." *Journal of Obesity and Metabolic Syndrome* 26(1):15–22. doi: 10.7570/jomes.2017.26.1.15.
- Klika, Brett C. et al. 2013. "High-Intensity Circuit Training Using Body Weight Maximum Results With Minimal Investment." *Acsn's Health & Fitness Journal* 17.
- Komala, R., Riyadi, H., & Setiawan, D. B. (2016). 2016. "Latihan Intensitas Sedang Dan Berat Memperbaiki Vo 2 Max, Indeks Massa Tubuh, Dan Persen Lemak Tubuh Remaja Obes (Moderate And High Exercise Intensities Improve Vo 2 Max, Body Mass Index, And Percent Of Body Fat In Obese Adolescents)." *J. Gizi Pangan*, 11(3), 211–218.
- Kravitz, Len et al. 2014. *High Intensity Interval Training vs . Continuous Cardio Training : Battle of the Aerobic Titans*. USA: ACSM Health and Fitness Summit.

- Maftukhan, Adib. 2020. "Latihan Tabata Untuk Penurunan Berat Badan, Persen Lemak Tubuh Dan Indeks Massa Tubuh (Imt) Pada Wanita Obesitas." *Journal Of Sport Sciences And Fitness* 6.
- Miller, Keith R. et al. 2016. "The Health Benefits of Exercise and Physical Activity." *Current Nutrition Reports* 5(3):204–12. doi: 10.1007/s13668-016-0175-5.
- Nataloka, Sukesni Widya et al. 2020. "The Impacts of Body Sculpting Exercise and Age on Body Fat and Waist Circumference." *Journal of Physical Education and Sports* 9(1):75–81.
- Niswah, S. R., Soemanto, R., & Murti, B. 2017. "Factors Associated with Overweight and Obesity in Adolescents in Kartasura, Central Java." *Journal of Health Promotion and Behavior*, 2(3), 207– 217.
- Nugraha, A. R., & Berawi, K. N. 2017. "Pengaruh High Intensity Interval Training (HIIT) Terhadap Kebugaran Kardiorespirasi." *Jurnal Majority*, 6(1), 1–5.
- Rahman, Taufiq et al. 2020. "Pengaruh High Intensity Interval Training (HIIT) Rasio 1:3 Dan Rasio 1:5 Terhadap Kecepatan, Kelincahan Dan VO₂max Pada Ekstrakurikuler Sepakbola SMAN 5 Mataram." *Jurnal Ilmiah Mandala Education* 6(1):234–42. doi: 10.58258/jime.v6i1.1289.
- Rangga, Brahmana et al. 2017. "Efektivitas Latihan Bodyweight Training Dengan Metode Tabata Untuk Meningkatkan Kebugaran Jasmani Mahasiswa Baru Tahun 2016-2017 Pendidikan Kepelatihan Olahraga Fkip Universitas PGRI Adi Buana Surabaya." *Jurnal Olahraga Prestasi* 13(2):89–105.
- Ranjani, Harish et al. 2014. "Determinants, Consequences and Prevention of Childhood Overweight and Obesity: An Indian Context." *Indian Journal of Endocrinology and Metabolism* 18:17–25. doi: 10.4103/2230-8210.145049.
- Riswanti, Ika. 2017. "Media Buletin Dan Seni Mural Sebagai Upaya Meningkatkan Pengetahuan Tentang Obesitas." *HiGIEA: Journal Of Public Health Research And Development*.
- Roemling, Cornelia et al. 2012. "Obesity Trends and Determinants in Indonesia." *Appetite*. doi: 10.1016/j.appet.2012.02.053.
- Setiawati, Fransiska Sabatini et al. 2019. "Intensitas Penggunaan Media Sosial, Kebiasaan Olahraga, Dan Obesitas Pada Remaja Di SMA Negeri 6 Surabaya Tahun 2019." *Amerta Nutrition*. doi: 10.20473/amnt.v3i3.2019.142-148.
- Shah, Nishtha et al. 2020. "Effect of Tabata Training for Weight Loss in Overweight Middle Age Female of Ahmedabad City: An Experimental Study." *International Journal of Science and Healthcare Research (Www.Ijshr.Com)* 5(December):281.
- Shilenko, O. V. et al. 2020. "The Impact of Tabata Training on Body Weight Correction in Women 25–30 Years Old." 114(Ficehs 19):722–25. doi: 10.2991/aebmr.k.200114.170.
- Tipane, Jake. 2020. "What Are the Benefits of High Intensity Interval Training (HIIT)?" *Medical News Today*, February.
- Utomo, Galih Tri et al. 2012. "Latihan Senam Aerobik Untuk Menurunkan Berat Badan, Lemak, Dan Kolesterol." *JSSF (Journal of Sport Science and Fitness)* 1(1):6–10.
- Viana, Ricardo Borges et al. 2019. "Tabata Protocol: A Review of Its Application, Variations and Outcomes." *Clinical Physiology and Functional Imaging* 39(1):1–8. doi: 10.1111/cpf.12513.
- Wood, Kimberly M. et al. 2016. "Dissimilar Physiological and Perceptual Responses Between Sprint Interval Training and High-Intensity Interval Training." *Journal of Strength and Conditioning Research* 30(1):244–50.
- Yang, Yun Jun. 2019. "An Overview of Current Physical Activity Recommendations in Primary Care." *Korean Journal of Family Medicine* 40(3):135–42. doi: 10.4082/kjfm.19.0038.